

ESTABLISHED 1848

RURAL
WORLDALWAYS
RURAL WORLD

DEVOTED TO AGRICULTURE HORTICULTURE HORSES CATTLE SHEEP SWINE ETC.

Established 1848.

ST. LOUIS, MO. WEDNESDAY, APRIL 30, 1902.

Volume LV., No. 18.

COLMAN'S RURAL WORLD.

Published every Wednesday, in Chemical building, corner of Eighth and Olive streets, St. Louis, Mo., at one dollar per year. Eastern office, Chalmers D. Colman, 530 Temple Court, New York City. Advertisers will find the RURAL WORLD the best advertising medium of its class in the United States. Address all letters to COLMAN'S RURAL WORLD, Chemical Building, St. Louis, Mo.

Subscribers must bear in mind that the subscription price of the RURAL WORLD is one dollar a year, and that we do not receive single subscriptions for a less sum, but in our constant effort to enlarge our circulation, we do allow old subscribers to take actually NEW subscribers at the fifty-cent rate, adding a new name with their own for one dollar, and other new names at fifty cents each, but in no case do we accept two OLD subscribers for one dollar. We are willing to make a loss on a new subscriber the first year, believing he will find the RURAL WORLD indispensable ever after. We also send the RURAL WORLD in conjunction with either the twice-a-week St. Louis "Republic" or the twice-a-week "Globe-Democrat" for one dollar and fifty cents a year, and new subscribers may be added at the fifty-cent rate. Published at this remarkably low price—less than actual cost—all subscribers must see the necessity of our dropping from our subscription list every name as soon as the year paid for expires. Thus if, on the printed slip of each paper you see John Jones May 02, it indicates that the name will drop from the list at the end of May, and if he wishes to continue to receive it, he must renew his subscription. If he would do it a week or two in advance, it would save us the trouble of taking his name off the list and again putting it in type, when he renewed, which frequently causes mistakes.

A Gentry County, Mo., reader of the RURAL WORLD wants to get the address of a maple sugar camp, the one nearest to his home (McFall) preferred. Who can locate such a camp for him?

In the effort to relieve the wants of the people of the drought-stricken section of South Missouri, seeds and provisions to the value of \$637 were sent to Wright county by the relief committee of the St. Louis Merchants' Exchange. But some of the good people of Wright county strongly insist that the county was able to care for itself without outside assistance, and in support of that idea, Mr. W. E. Young, county clerk of Wright county, sent to the relief committee checks amounting to \$25, and asks that the county be given credit for thus having provided for its own relief.

J. Sterling Morton is DEAD.

J. Sterling Morton, Secretary of Agriculture during the second Cleveland administration, died Monday, April 27, at the time of his death he was at the residence of his son, Mark Morton, in Lake Forest, near Chicago. His illness dated from last November, when he contracted a cold while speaking at the Chicago live-stock show, which developed into a gripe, then into a disease of the bronchial arteries. A week ago he was stricken with apoplexy.

Mr. Morton had always been deeply interested in farming and in all that was connected with the upbuilding of every line of agriculture. He will be best remembered, as in the dead world has been his wish, by "Arbor Day," which he originated, an annual festival throughout the western prairie states that has resulted in the planting of millions of trees.

EARLY CARE OF THE CORN CROP.

The short corn crop of last season and the consequent high market price has again emphasized the value of the corn crop. At times local prices are higher than those of the general market, due to there having been a local failure and the expense of transportation, making corn in this special district several cents higher than in other sections where good crops were secured. But corn has risen high in price generally. Then the logical conclusion is that the corn crop is generally scarce, and that stored supplies are being much depleted. Such conditions are prophetic of good prices even with a "normal" average corn crop harvested; hence the crop should have the most intelligent care that can be given it.

Weeds are the great and universal enemy of this crop in its early stages. The weeds take from the soil plant food for their own growth and rob the soil of moisture. Keep ahead of the weeds! This is the corn-grower's motto. One of the best methods of securing a clean field is to harrow after planting and after the corn is up. If rain falls immediately after planting, forming a crust on the surface, the weeds below the ground may come up, it may be advisable to go over the field with a light harrow and

break the crust. This will kill many of the germinating weeds and let the young corn plants through more readily. A light, tilling, spike-toothed harrow should be used. Care and good sense must be used in its use. In order to have the soil all stirred the teeth should be fairly close together. When the corn is up the soil should not be stirred so deep as to tear up the young plants.

If a heavy rain follows planting so as to prevent harrowing until after the corn is up, and time has to be given to allow the soil to dry out, watch carefully and as soon as possible harrow the crop, for if this is neglected the soil will so harden about the plants that they may be broken off. Care should be taken to secure a good stand, and that no hills of corn be destroyed by careless tillage.

THE OLEOMARGARINE BILL.

Is Ready for the President's Signature.

By the action of the Senate on Monday, April 28, the bill providing for a tax of 10 cents per pound on oleomargarine colored to resemble butter was passed, and is now ready for the President's signature. This result was attained by the Senate agreeing to the amendments made to the bill by the House. Senator Culberson of Texas made an unsuccessful effort to have the bill referred to the Committee on Agriculture with a view to its final defeat. Senator Teller of Colorado also made an attempt to side-track the measure, but failed, and finally, on motion of our Missouri Senator, Cockrell, the House amendments were concurred in and the amended bill was passed without opposition, thus ending the long fight to get a bill through Congress which would prevent the makers and handlers of oleomargarine imposing a counterfeit article on consumers for genuine goods.

All honor to Chas. Y. Knight, secretary of the National Dairy Union, who has been to the front during all of the fight.

Sorghum as a Forage Crop.

Progressive farmers are having their attention turned to crops that were not grown for feeding purposes a few years ago. Experiment station work has shown that some of the forage crops that have stood in high favor do not have the high feeding value that have been ascribed to them. For instance, timothy hay. And other crops have been found to have a higher nutritive value than our fathers attributed to them. Then, too, here in this central west more intensive farming is necessary because the range privileges of twenty-five years ago are not available. Then large herds were grown on the lands owned by the government or non-residents. It is the thinking farmer who recognizes changed conditions and changes his farming operations to suit them.

Of the crops that are grown more extensively for forage in these later years sorghum has an important place. It is well suited to the soil and climate of this central west section, and farmers should acquaint themselves with the facts regarding it and understand when and how sorghum should be fed to be profitable. The following as a result of experiment work at the Nebraska station will enable some farmers to see why sorghum feeding has not given them satisfaction:

Chemical examinations show that the feeding value of sorghum is greatest when the plant is young.

When two feet high it contains three times as much nitrogenous matter, twice as much fat, and only two-thirds as much fiber or woody material as it does when it has attained its growth and formed seed.

Young sorghum is an almost perfect stock food, since it contains flesh-forming materials and fat-forming materials in the ratio of 1 to 7.

When nearly mature this ratio is 1 to 23, the fat-forming materials being very excessive. Therefore, the crop should be used for pasturage before the seeds form. It would be profitable to begin to pasture sorghum when it is not more than two feet high, since the stalks first eaten off will usually produce a second growth of young cane, which will balance the increasing fat-forming properties of the other crop.

Young sorghum is a very succulent food. It contains about 85 per cent of water, or only 15 per cent of dry matter. Over 150 pounds per day of the green fodder would be required to furnish sufficient food for growing cattle or milch cows of 1,000 pounds weight.

The best results are obtained by using some dry feed along with sorghum pasturage.

As compared with forage plants which are available for late summer pasturage, young sorghum is somewhat deficient in flesh-forming material, containing less than blue grass or Bromus inermis, about the same as timothy, and a little more than Indian corn.

Sorghum should be cut for fodder at as early a stage as it can be well cured. Analysis shows that after the period of flowering the sorghum stalk rapidly becomes more fibrous or woody and the proportion of the more valuable food principles is correspondingly decreased.

Even if cut while heading out it will have a somewhat smaller amount of flesh-forming material than most hay crops, and less than small grain, but more than straw of the small grains.

The fondness live stock have for this fodder is doubtless due to the sugars which it contains.

Its relatively high percentage of heat

and energy-producing materials makes it especially adaptable for cold weather feeding.

Thus it will be seen from the data here given that sorghum is most valuable for food in its early stages, and is therefore well adapted for grazing, and if to be used in a silo or cut for fodder it must be cut before the flowering period. Farmers would do well to note the results obtained when feeding sorghum and prove to their own satisfaction the value of this crop.

IS GREEN SORGHUM POISONOUS?

There is a widespread belief that green sorghum is in some way poisonous to cattle, and therefore to be avoided. It is true that many deaths of animals have resulted from eating the plant, and under conditions that indicated poisoning; but it is altogether likely that death is caused by a development of gas, just as in a case of bloat from eating green clover. The same danger exists when any green vegetation is eaten more or less greedily by an animal that is not used to such food.

But there is abundant evidence to prove that all danger of loss by the eating of such forage can be avoided with the exercise of proper care. When stock are first being put on pasturage where the vegetation is rank they should not be permitted to remain more than fifteen minutes the first time, a few minutes longer the next day, and so gradually lengthening the period, but, most important of all, the stock should not be permitted to eat the green forage without first having eaten a good feed of dry hay or fodder. With the exercise of proper care to prevent the stock overeating green sorghum and seeing to it that they have a feed of dry roughness before going to the pasture, no doubt will follow the eating of this or any other green forage.

EXTERMINATING MOLES.

These little pests frequently do much damage to lawns and in gardens, and if care is not taken to destroy them they soon prove a very destructive nuisance. It is claimed that a very successful way of catching moles is to dissolve strychnine in water acidulated with vinegar and soak some grains of corn in the solution. In the runs of the moles make a hole with a stick and drop a few grains of the corn in the hole.

If it be true, as the naturalists claim, that moles do not eat vegetable matter, but live principally on worms, grubs and other forms of insect life, possibly dead beetles soaked in the poison solution would be an effective bait.

Of course this poisonous material must be used with caution, for chickens and other fowls may get it and the loss be as serious as that caused by the moles. And this danger makes the use of a spring trap safer and, when cautiously set, equally as effective in exterminating the moles.

A farmer of Indiana who has been successful in ridding his farm of moles says the best plan is to find where their runs go away from a fence, out from their hiding places into the field or garden, press their track level with the ground and set the trap over the track so that the moles or spikes of the trap will be over the run of the moles. Then let it snap a few times in order to let the spikes make holes in the ground, that there may be no obstruction in striking the mole. When the trap is thus arranged you will catch the mole in the majority of cases.

FROM SUNNY SLOPE FARM.

Editor RURAL WORLD: I get quite a few letters inquiring as to the truthfulness of reports of dearth and need of the people in this and adjoining counties, and as most of them enclose stamps or stamped envelopes I have answered by private letter.

But the continued denial of the truthfulness of these reports by our "first-page" correspondent, C. N. Crotenburg, leaves me to say a few words through the pages of the RURAL WORLD. Like himself, though, perhaps in a more limited sense, I will say that personally I know very little about the affairs of my neighbors, as, owing to ill health and more work than I really can do I do not often get beyond the limits of our "fine fence." I know this, however, that neither I nor any one who has visited me who cultivates an upland farm, raised any crops, and I know that many of them have but the bare necessities in food and clothing. I know that "good authority" has stated to me that very few people have the means to squeeze, and that stock was thinned out pretty well—even to the chickens—and what stock is left has come out in poor condition. I never before saw such gaunt hogs, such "humped" cows, or such thin horses as we see now. I know that stock feed has been almost beyond the reach of even those who had money to buy with, and that many have been talking of leaving, to find work by which to support their families—leaving the wife and children to raise what they can on the farms.

As to ourselves, we raised almost as near nothing as one well could. We planted several plantings, and cultivated, but our only garden returns were two measures of indifferent peas and as many beans. Our fields brought us in a few bushels of wheat, a few loads of fodder and roughage—not even a "nubbin" of corn. We could not have kept a cow on the product of our whole farm.

Fortunately for us we had a few dollars in the bank, and we sold our Rocklands farm for cash. Instead of selling our small start of stock, we rather added to it, but we paid dearly for our foothold.

ness. Stock food could scarcely be bought, and we had not had a fine 20-acre meadow of tame grass, 15 acres of rye and 12 acres of wheat on which to turn our 65 head of stock—horses, cattle, sheep and hogs—until the snow covered it, and again when the snow left us, I do not think we could have "pulled through" even as cheaply as we did, for hay at \$20 per ton, chopped feed at \$1.50 to \$1.75 per cwt., wheat bran at \$1.25 per cwt. and corn "out of sight," made our stock rather expensive pets.

Besides this, we have had to buy very mouthful of the family—seldom less than four of us (for we have many friends who like to visit at the "Slope Farm")—has eaten. Owing to "unbalanced" rations our "Bosie," in common with most of others, "went dry," and our 100 hens, warmly housed and well loused with a "house killing machine," and in perfect health, refused to lay any eggs, but never forgot to eat every twice a day.

Our own stock is all in fine condition, and sheep and cattle do not now need feed, as at this date the sheep and calves still run in the fields while the older cattle find good range on the abandoned farms, as there seems but little stock in the country. But the work horses, and the animals not allowed on the range must be fed until the new crops come in; so must the families. It has been a hard matter to buy feed for the majority, as everything brought in here has been held at such high prices. Our own seeds have cost us all of \$50, and we must still have seed for later sown crops. Our potatoes cost us \$1.50 to \$2 per bushel. We have sown, last fall, wheat and rye, and this spring beardless barley, several kinds of fine corn, several kinds of grasses, potatoes, artichokes and several bushels of highly larded corn. We have a good Oakard upland farm; the soil is in good condition generally and we expect to improve its fertility all the time. We have now about 30 acres in cultivation—about 20 of this newly cleared and almost free from weeds.

Through the activity of my pen I have been so fortunate as to obtain quite a few "orders" from various florists and nurseries, and I have now some fine gooseberries, sweet cherries and strawberries newly set while most of the small plants are still in the ground. I have used though not made any growth. The "gude moon" has filled the vacancies in the orchard, besides adding to its extent, having lost but few of our last year's planting; but quite a few of the "other fellows" trees were about dead by borers, etc., when we came.

Many of our herbaceous plants and a few hardy roses are doing very well, while most of my last year's setting are alive. My hyacinth, tulip and crocus beds are gay with blossoms, and a few iris, and some shrubbery are promising to bloom. By the time all my orders are filled, I shall have many fine plants, and much promise of beauty added, and if the dear Lord doesn't punish the earth again with fire I hope to have much beauty about my little white cottage in the next few years.

Our world is gay with blossoming plums, cherry and sarvis berry bushes; the air, as it blows over our forest trees, is so sweet! So sweet! Everything is beautiful and these rock hills are bright with bloom under foot, as overhead. We go hopefully to work, and again the fields will be seeded, though we ask anxiously, "What will the harvest be?"

We shall have very little fruit, no small fruit, on our farm; but we have a fine strawberry bed rest from the remnant of our last year's ruined planting, supplemented by a goodly lot of fine ones from a far away nursery, and, as we do not expect any berries this year, we will not so much miss the cream we shall have to do without. So you see "everything, working together" for the good of the hopeful Ozark farmer if conditions are favorable.

HELEN WATTS MEYER.
Wright Co., Mo., April 23, 1902.

THE WHEAT AND THE CHAFF.

Editor RURAL WORLD: The above heading may suggest to some a discourse on the final destiny of man; but it is of the present evils and benefits we would write. The man who takes and carefully reads agricultural papers, as well as the bulletins of the experiment stations and of the Agricultural Department, is the man who will come nearest to successfully separating the wheat from the chaff. A few days ago we noticed an advertisement in one of our papers of an annual strawberry that would produce fruit the same year seed were planted. Along the same line comes the ever-bearing corn on a stalk of which a new ear comes when one is removed, nothing being said, however, about a new tassel to fertilize said ear of corn. This is sort of a "miracle" which we would call attention, and it is remarkable how many seemingly intelligent persons will "bite."

There are still others that might be classed as "noxious seeds" instead of "chaff." We dislike to condemn anything without a thorough knowledge from experience, but in our opinion it would be well for the farmers to hesitate before sowing any seeds of new forage plants which claim to make such enormous yields, as much as "sixteen tons per acre." We farmers of the black land district have in Johnson grass a valuable forage plant, or we might say it "has the forage," for so persistent a grower is it, and such a "drought resister," that it resists all efforts to eradicate it, and now man is the slave and J. Grass the master.

We notice an article from a South Missouri farmer who has Johnson grass, but our advice to all is to let it alone. It is, in my opinion, without value as a pasture plant and not first-class for hay.

In ordering your seeds, stick to the old reliable houses. If the seeds do cost more you get what you want, and not so much "chaff."

Now, we are departing from the beaten path in saying a few words in defense of free seed distribution by our congressional men. I do not advocate the principle of paternalism, but while government funds are going as subsidies to steamship companies, why not let the farmers have a few dollars of it in seeds? Then some of the seeds are really new and valuable sorts. Much sport has been made of the unproductiveness of free seeds, but we make the assertion with good proof that of seeds advertised in the average agricultural paper (RURAL WORLD is above the average), a large per cent are inferior to the seeds sent out by the United States Department of Agriculture. While I do not favor the distribution of seeds as now practiced, it "makes me tired" to read an article condemning the same on the plea that the seeds are unsound, when the advertising columns of the paper publishing the criticism are filled with notices of "cheap" seeds at a cheap advertising rate. However, the readers of the RURAL WORLD can nearly always be sure of getting goods as advertised, because they give their advertisers good value at a good price. An observing man may get "bit" a few times, but he will learn.

Some of our readers may think the writer is rather pessimistic and that all I know is "chaff." Now if you will "chaff," read and study the articles in the RURAL WORLD. Get the catalogs of the implement dealers, and instead of investing your spare dollars in "novelties" buy some of the new farm implements and use them right; then the wheat will grow. One reason why I am so suspicious of free distributions that I am a Missourian and have to be "shown."

There is a great deal in the grains of what we get from the RURAL WORLD, and if rightly used will produce "some ten and some a hundred fold."

H. F. GRINSTEAD.
Tarrant Co., Tex.

WILL CLOSE GRAZING KILL THE HEBESIAN FLY?

Editor RURAL WORLD: Wm. Manning asks for the opinion of wheat raisers concerning the theory that close pasturing of wheat destroys the eggs of the Hessian fly. I am not much of a wheat raiser, but have had some experience with the Hessian fly.

When I bought the farm on which I now live, about December 1, 1897, there were 27 acres of wheat on it. There were about 20 head of horses, mules and cattle, and 30 head of sheep running upon the wheat. The man from whom I bought the farm reserved the right for his stock to remain upon it till March 1, 1898.

The horses, mules and cattle were kept off the wheat after January 1, but the sheep were pastured upon it until March 1. The wheat was eaten off close to the ground, but the Hessian fly destroyed it. It was not worth cutting.

We are having dry weather now, with winds that might make a Kansas field of hay here.

ST. Clair Co., Mo., April 21.
WET-DAY JOBS.

Editor RURAL WORLD: For nearly a year our wet-day jobs accumulated, and when February and March came with plenty of snow and rain we had our hands full. We sat by the fire one or two days pasting books, mending shoes, etc., but managed to drive nearly 400 fence posts, now about \$5 a score to grass seed and do innumerable odd jobs about the place, not the least of which was to dig a well 28 feet deep and 7 feet in diameter, and got four feet of water while the ground was still dry. We now have our place all sowed to grass, provided we do not have another drought to kill it. Have our potatoes planted and "laid by"—mulched; strawberries in good shape, with plenty of mulching between the rows; vegetables planted to date and sweet potatoes in the hotbed sprouting.

C. A. BIRD.
Vernon Co., Mo., April 21.

FARM TELEPHONES.

Editor RURAL WORLD: The Jackson County (Ill.) Telephone Company was organized in August, 1901. It has 25 miles of double line, or metallic circuit, in operation, with more in construction, also three switch boards established. We have connection with the Tri-County system, comprising 60 miles of farm line, all built on the co-operative plan. No one person owns or acts the system, more than three miles of line. The expense, after getting established, is nominal, as a toll to non-subscribers and rent of phones at 50 cents per month pays switch operator.

It will be glad to furnish copy of by-laws to the RURAL WORLD readers.

ELKville, Ill.
E. B. KIMMEL.

LIKE AN OLD FRIEND: I take several papers, and in order to economize I thought I would drop some of them, but when it came time to send in renewals it seemed too much like dropping old friends, especially as to the RURAL WORLD, for the reason that in a single issue I have often received advice worth several years' subscription. Wishing you success, I am yours truly,

W. B. SIMPSON.
Greer Co., Okla., April 23.

NOTES FROM AN OHIO FARM.

Editor RURAL WORLD: Every one who has land subject to washing by hard rains is interested in means of filling up these places where the soil is washed away and in promoting further loss. We have some stone, and use these broken fine in the larger ravines, but they must be broken fine. We make beds of these two to four feet wide across the ravine and 10 to 20 feet apart. While this takes some work, it is a sure method of preventing further loss. This year we are trying to fill a bad hollow, and we are beginning at the lower end. The briars are cut and piled in the bottom, then covered with soil; then we put in all the loose stones near and dig down the banks. We then cut willow stakes about an inch in diameter and two feet long, sharpen the lower ends and drive them about eight inches apart and a foot deep across the wide bottom of the hollow. These rows of stakes are set about 30 feet apart and the tops slant up the hollow. We expect them to take root and grow so as to make a hedge across the bottom. They will be trimmed down each year and not allowed to get more than four to six feet high.

By the way, we use the golden willow, and its long, slim branches, one year old, make the best kind of ties for binding fodder. We use them for this purpose as well as for tying corn shocks; a willow neither slips nor breaks.

LETTERS from various parts of Missouri in the RURAL WORLD of April 9 bring pleasant memories. I was especially glad to see the one from Southwest Missouri and its mention of several places I was at last fall while attending farmers' institutes. While friend Wade knows that I was greatly in love with Pettis, Boone and Cooper Counties, and Mr. Hand knows what I think of St. Clair County, there is some way a feeling in my heart that Vernon County is one of the best in your great state. I wonder if my namesake of Eldorado Springs, or his handsome daughter, could tell me if they were on farm topics to the RURAL WORLD? Maybe John Traw will read this, and if he does he will know that I have not forgotten him or his Gasconade bottom farm. I know it must be in corn by this time, and hope that the gray mare was able to plow it.

Brother Hoyt, I think that "most in general" a man has no use for a "plum" in our country, and the young man who carelessly shot his friend ought to be well fined for carrying one.

Speaking of fires, as Mr. Hoyt did, seven buildings in our county seat burned two days ago. They were one brick stable, built back in the thirties, and insurance companies would not accept them at a good valuation. The fire originated in a gasoline shed, and three engines—two steam and one a four-horse power horse engine—fought it fourteen hours. An expert fire-fighter said afterward that two barrels of flour thrown on the fire with scoop shovels when it was discovered would have prevented its spread; so it may be well to remember that flour is a good thing to help put out a fire of gasoline or any oil.

have great fear of fire, and will never allow any amount of grass or corn to be there is the slightest chance for it to get out. When one has to burn off a field, he had better spend a day in raking and plowing a break around it than an hour in fighting it after it has got out. The carelessness of one boy kept ten or fifteen acres of corn at work last day to save some buildings a mile east of me last week. We have only had to fight one fire on the farm in 25 years, and that was maliciously set by some rough boys who wanted to damage a neighbor.

Mr. Gillespie's mention of "red butter" reminds me about a year since I asked an institute speaker, who was displaying his ignorance of dairying, about coloring butter. Said he: "Mr. Lyon has been to Missouri, where the market demands highly colored butter." "Yes," said I, "I was in Missouri, and I was in the Holden butter factory, where Mr. D. made butter good enough to take the premium at the Pan American Exposition at Buffalo over samples from all the older butter-making states." I did not get the information I was seeking, but I shut up Mr. Ignorance. I have seen many state fair exhibits of butter, but I do not think I ever saw one to beat the Missouri State exhibit at Palmyra last November. Missouri farmers may bet that no one can say a word against their state when Lyon is about. With a good crop this year, Missouri can "show" the best of them.

SCHOOLS.—I hope that Superintendent Carrington will find time to write us soon on the school question. During the summer vacation is the time to select the best teachers, make some improvements in the school buildings and grounds and lay our plans for better schools next winter. The town and village schools have a great many advantages over those of the country, but some way it seems to me that a very large per cent of our best men in all avocations of life got the most of their education in the old country school house.

Since I wrote the above I was elected director of our home school. I held the office twelve years, then dropped out, and only accepted again because a man named Johnson was elected, and he was a man who had been a teacher for 20 years. We have seven months school, pay our teachers \$40 per month and janitor \$12 per month. The school house uses about 125 bushels of coal per year, costing \$17 delivered at the house. This, with some repairs each year, makes the cost of a year's term

about \$315 to \$325, and our average attendance is less than twelve pupils. Our district is No. 3. No. 2 has an attendance of four, and No. 5 of thirteen. Each school costs near the sum above mentioned, and one teacher could do the work of all. This would save at least \$300 per year, but here in Ohio we are not very economical in use of the public funds, and \$300 is not much money anyhow. That amount of money would hold a two-day farmers' institute for every school district in the township twice a year, and there are ten districts. It would put two farm papers in every farm house in the township, or it would furnish a bushel of improved seed corn to each of the 300 corn growers of the township, and the abolishing of two of the three schools would not be a hardship on any one.

C. D. LYON.
Southern Ohio.

CANE FODDER, ITS VALUE AND USES.

Editor RURAL WORLD: A short time since I saw an inquiry in the RURAL WORLD concerning cane fodder. The Minnesota Early Amber is mostly used here. The stalks are not large or very profuse in foliage, but rich in saccharine. It is a desirable forage crop for cattle, horses, sheep and hogs. I have used a variety called Kansas Orange. The stalks are larger, softer and have more foliage, and the seed heads are larger than the Early Amber. The Kansas Orange seed is a reddish brown color.

The best time to plant is from the 15th to the 1st of May, according to the season. Plant about an inch deep, according to the season and the state of the ground. Use a press drill; get rows about six inches apart and seeds about an inch apart in the row, or closer.

Hogs prefer larger stalks than other stock. They commence eating at the butt ends first; horses and cattle take the leaves first.

The ground should be well plowed and nicely harrowed down. The ground should be clear of weeds and warm to give the seed a good start ahead of the weeds. When ground is dry and loose the stalks will grow better.

When the cane is in the soft dough cut with a binder and tie in small bundles and shock. When ready, haul and stack as you would sheaf oats. Two of these sheaves will make a feed for a horse.

I made a good job packing my ice with cane fodder in this last winter. Ice then was about fifteen cents a bushel. If preferred, the fodder can be hauled from the shock when needed for feeding. Where cane is grown thin and cultivated it will make about 40 bushels of seed per acre, say about four times as thick as corn.

O. C. BURCH.
Jefferson Co., Neb.

CORN FIELDS REVIEWED.

Editor RURAL WORLD: How long we will remember the lessons learned by the severe drought of last season, so keenly felt by not only the farmers of the United States, but by every industry, and every man, woman and child in this country. How many people are devising plans to overcome the drought, should we be so unfortunate as to have another one this season? Some are advertising drought-proof seed corn. Aich says, "another way of spelling 'humbug,' something the farmers are becoming acquainted with in many forms of late.

I am not a very old man, neither am I an old farmer, but my experience has taught me that drought-proof corn depends upon the conditions of the ground, quality of seed, planting and tending. First, plowing land too wet is a promoter of drought effects. Land pastured during wet weather and turned over in a cloudy condition has no drought-resisting powers. But, on the other hand, to resist the drought and there is good seed, it should be harrowed and rolled until it is a bed of dust. Plant the corn about two inches deep and not less than three feet apart in the row, with not more than two or three grains to the hill.

Give it shallow cultivation with plow and harrow, and roller if possible. Give constant cultivation. Each way, so the ground is kept level. This done, you have all the drought-proof seed corn that any one could furnish.

These directions will work any season, but we do not all practice them, and often we cannot do as we wish to. We seldom work our land too much before seeding, but too often get in a hurry and say I will just plant this, and then harrow more. Then it is left, and usually a poor stand the result, and cloudy ground, weedy, spindling corn is another. When plowing you will roll those dry clods around and under the seed, and will ever; while in the field with the dust much there will be moisture in the driest times that we have ever had in Iowa. A good crop is usually found in all fields so treated, as has been shown here this last season, the worst season old Iowa has ever experienced since the settling by the white man. Let us all learn to plant less acres, plow and cultivate more thoroughly, reap more, and when about to slight a job think of 1901.

JOHN H. CURLE.
Davis Co., Iowa.

Durable black paint for marking grain bags, or for any purpose where coarse black lines are required may be made by mixing the soot scraped from the bottom of a stove lid with kerosene until it is of the right consistency.

about \$315 to \$325, and our average attendance is less than twelve pupils. Our district is No. 3. No. 2 has an attendance of four, and No. 5 of thirteen. Each school costs near the sum above mentioned, and one teacher could do the work of all. This would save at least \$300 per year, but here in Ohio we are not very economical in use of the public funds, and \$300 is not much money anyhow. That amount of money would hold a two-day farmers' institute for every school district in the township twice a year, and there are ten districts. It would put two farm papers in every farm house in the township, or it would furnish a bushel of improved seed corn to each of the 300 corn growers of the township, and the abolishing of two of the three schools would not be a hardship on any one.

C. D. LYON.
Southern Ohio.

Horticulture

HORTICULTURAL TALK.

CORRECTION.—In the issue of April 9 appears an important error. Under "pear blight," severe pruning should read "summer pruning."

GRAFTING.—Now is the time to top-graft and graft grape vines. For top-grafting I find the bark graft both the simplest and easiest method. Remove the limb where graft is wanted, cut the bark on one side of the stock; shape the limb as for root-grafting by making a bias cut on one side about one inch in length, so that the cut will come out at the opposite side and just at the base of the limb. Push the limb down under the bark with cut side in, wrap with twine, wax, and all is complete. In this way a skillful man can place a good many hundred grafts in one day.

THE KIEFFER pear has a tendency to grow straight up, and bear some of its fruit too high to reach. Such trees I cut back, and wherever a limb is removed, put in a new variety which I wish to test. In this way I keep my trees down and at the same time will find out at an early date which of the new pears are desirable or otherwise. By this practice there is less tax on the tree than there would be if the limbs were simply removed, as the wounds are all sealed up with wax and there is not such a shock to the tree. Grafts put in a year ago in this way are looking fine now, some of them showing fruit buds.

ABOUT PECANS.—I have had considerable correspondence lately with a pecan specialist, Mr. T. Bechtel of Mississippi, and recently sent him some nuts for experimental purposes. He has been very successful in grafting the pecan, and offers to send me next year a pair of trees of each of the leading varieties, that they may be more fully tested in this latitude. Some of the southern varieties have been tested here and found tender. Mr. Bechtel, reading of pecans as large as large hens' eggs, wrote to parties supposed to have them, but received no reply. He says he has some varieties that are very large, but none that could be compared with hens' eggs.

ARRANGING THE BERRY PATCH.—In setting a new patch of berries, consisting of many varieties, I arrange it so that rows of different varieties of the same class should not come alongside of each other, with a view to prevent plants mixing. For instance, I set out a row of one or more varieties of red raspberries, the next row would be a blackcap, or blackberry, then a row of another red raspberry, etc.

With strawberries I prefer to set so as to have several short pieces of a variety at one end of patch, to one long row of other kinds on other side.

WORK AT MY PLACE.—I have just uncovered the strawberries and find them in excellent condition. I am considerably behind my neighbors in this work, being afraid of late frosts.

In removing straw care was taken to take off just enough to let the plants through, leaving considerable close around the plants to keep down weeds and retain moisture. I consider it just as important to keep the bearing bed free from weeds as the new bed. In this respect I differ from some of my neighbors, whose berry patches at picking time look more like weed patches than anything else.

On taking up the fruit and nut seed which was buried at this time was found in good condition excepting some of the pear seed, some of which was rotten, owing to poor drainage. Chestnuts and English walnuts were sprouting. Pecan and hickory nuts were beginning to crack. Apple seed was plump and sound.

VEGETABLES.—I tried a good many of these in pots this year, and all are doing well. The advantage in growing plants in pots is not only that of being able to put them out without checking them by the shift, but the root binding has a tendency to throw plants into early bearing.

Plants may be kept in the bed until in bloom and then removed to the open ground without their dropping a blossom. It says well to start them in pots, at least, at first, and then, when ready, to put them into the open ground it is hard to get a good stand, as much of the seed will not come. My limas are now about one foot high and are a pleasing sight to look upon.

Several hundred tomato plants in pots are almost ready to bloom. Potted cauliflower was just put in the garden. The latter was potted to learn if this would be of any advantage with that class of plants.

Horse Sense.

"Any fool can take a horse to water, but it takes a wise man to make him drink," says the proverb. The horse that is hungry and drinks when thirsty. A man cannot do this by the clock, without regard to the needs of nature. Because of careless eating and drinking "stomach trouble" is one of the commonest of diseases. Sour and bitter risings, belchings, unnatural fullness after eating, dizziness, headache, and many other symptoms mark the beginning and progress of disease of the stomach.

Dr. Pierce's Golden Medical Discovery cures diseases of the stomach and other organs of digestion and nutrition. It cures through the stomach diseases of other organs which have their origin in the diseased condition of the stomach. It strengthens the stomach, purifies the blood, cures obstinate cough and heals weak lungs.

"I was taken with Grippe, which resulted in heart and stomach trouble," writes Mr. T. R. Bechtel, Montana, Alleghany Co., N. C. "I was unable to do anything of a good part of the time. I feel thankful to God for the benevolent full confidence in his medicine. He advised me to take his 'Golden Medical Discovery,' which I did. Before I had finished the second bottle I began to feel better. I have used nearly a dozen bottles and feel like a new man. I have received from Dr. Pierce's Golden Medical Discovery. I can highly recommend it to all persons as a good and safe medicine."

Dr. Pierce's Pleasant Pellets keep the bowels healthy.

Let Me Tell You How to Get Well

Send no money; simply state the book you want. It will tell you what I spent a lifetime in learning.

With the book I will send an order on your druggist for six bottles of Dr. Shoop's Restorative; and he will let you test it a month. If satisfied, the cost is \$5.00. If it fails, I'll pay your druggist myself.

I do just as I say. Over half a million people have secured my treatment in that way, and 29 out of each 40 have paid for it because they were cured. Not a penny is accepted if it fails.

There are 29 chances in 40 that I can cure you. No matter how difficult your case, I take the entire risk, for those half million cases have proved what my remedy can do.

My way is to strengthen the inside nerves. I bring back the nerve power which alone makes each vital organ do its duty. No other remedy does that; and in most chronic diseases there is no other way to get well. Don't let doubt or prejudice keep you from asking about it.

Simply state which book you want, and address Dr. Shoop, Box 55, Racine, Wis.

Mild cases, not chronic, are often cured by one or two bottles. At all druggists.

Cucumbers and melons may also be started in this way to good advantage. Some beets were sown in an early hotbed; they are now blooming in the garden and doing well. We look for earlier pears than we have ever had.

The garden is beginning to loom up with its lettuce, cabbage, cauliflower, beets, endive, peas, etc.; all removed there from the hotbed.

The prospect for a good living this year at our ranch is very gratifying, even though that be all we get out of the struggle. EDWIN H. RIEHL, North Alton, Ill., April 21, 1902.

SOME QUESTIONS ASKED.

Editor RURAL WORLD: One asks, "Will raspberries and blackberries mix if the different varieties are planted close together?" Two or more varieties of black cap raspberries planted close together will not mix. The same is true of blackberries. The black cap raspberry is propagated from the tip end of the cane, and the plant will not throw up sprouts or plants from the roots to produce next year's crop. They mix when two varieties are planted close together and the canes are bent over in a row with another variety and make plants.

The blackberry is propagated from the roots. The roots of one variety will extend to a row of another and throw up plants, and thus there will be a new growth of plants, some of one and some of the other kind, which is very inconvenient. For instance, two-thirds of the Early Harvest are ripe and picked before the Snyder and other varieties commence to ripen.

Red raspberries are propagated like blackberries, from sprouts and root cuttings. To keep them from mixing I plant not less than two rows of black cap raspberries between varieties of blackberries. Another asks, "Will it pay to mulch blackberries and raspberries?" After one or two years of cultivation, mulching is very beneficial. It will keep the ground moist in dry weather and the berries will hold out large to the last picking. It will also keep weeds and suckers from coming up between the rows, both of which draw moisture and reduce the crop. On a side hill where the ground washes blackberries and raspberries should be mulched. I remember gathering blackberries over 50 years ago in the woods that grew in places where the wind had blown a mulch of leaves on them. Those thus protected were larger and better flavored than the ones picked from vines on bare ground.

Why do peach trees live in fence corners longer than those in open ground? I am unable to tell, but will venture an opinion. Observation leads me to note that trees in fence corners are mulched with leaves blown there by the wind, which rot and form a natural fertilizer. Each fall there is a new coat, which keeps the ground moist and the peach trees grow on open ground, although with good cultivation they grow more rapidly than they do in fence corners. In dry weather they are neglected and the sudden changes cause unhealthy growth, which is not the case when grown in fence corners.

Vernon Co., Mo. JACOB FAITH.

WHAT I HAVE ACCOMPLISHED ON FIVE ACRES.

Two years ago I prepared a paper on the above subject and read it before our county society. The reason that suggested this subject to my mind was that I travel through our and adjoining counties and my calling (that of a nurseryman) brought me in contact with men that owned small farms or tracts of land, and they frequently said: "If I had more land I would plant an orchard," and as I said, and do say, "Those are the men to plant trees," for what will bring the returns that five acres planted in fruit will?

My home place consists of five acres located in the corporate limits of east Missouri. I commenced seven years ago to plant fruit, and will give a brief outline of what I have accomplished. I have planted about eighty apples, 25 pears, 300 cherries, 200 peaches, 100 plums, 500 raspberries, 400 gooseberries, 100 currants, 300 grapes, and about two acres in strawberries, besides various other vines and shrubs. I have still a small space of ground yet unplanted, and have ample lawn and barn lot. My wife says she thinks when I plant the remaining ground that I will "jack up" the house and plant where it now stands.

You may wonder how I have succeeded in planting so much fruit on so small an acreage. I plant my raspberries and gooseberries in my tree rows, and in the spaces between I place strawberries. I have grown strawberries successfully for five years in this manner among my cherry, plum and apple trees. Of course a great deal of fertilizer must be used. I have planted my raspberries and strawberries in my poorest ground and have never put a knife to them except to remove sprouts. My first planting are now in bearing and have borne four successive crops. The one of 1900 was sold for an amount equal to the cost of the ground, which was \$140 per acre, and this year's crop was equally good in revenue but not in quality. The money-makers for me have been the Early Richmond and Late Duke in pears, Wilder, Kieffer and Duchesne in pears, Wilder

Goose in plums, Crescent Seedling in strawberries, Downing in gooseberries, Mammoth Cluster in raspberries and Fay's Prolific in currants. Now, in conclusion, I will say to those who are not "contented with broad acres and must be possessed with from 5 to 40 acres, by all means plant a part in fruit, and if any one is looking for a regular job lasting the year around, plant 5 acres in small fruit.—C. W. H., read before Missouri State Horticultural Society.

THE BUTTERFLY EXPERIMENT STATION.

(Concluded from Last Issue.) Cherry—Early Richmond, Montmorency and English Morello all did well in their season. Others didn't bear. Plums did not bear.

Fruit: Fruited Four Varieties—Duchess, Kieffer, Butter and Beurre Clairgeau. Had some very fine specimens. Trees made a fine growth and are very vigorous and healthy.

Apples—Missouri Pippin and Jonathan bore some fine fruit, but didn't notice any on any of the other varieties.

Peaches—Being in the dry season we cannot report on time of ripening. We fruited 25 out of 50 varieties that we have in the orchard. Capt. Eads did the best; picked 75 fine merchantable peaches off of one tree; Old Missouri Free a close second, with perfect fruit; Crosby very full, medium size, full reddish color, good quality, and one of the hardest we have; Lewis, new from Missouri, bore some specimens in 1900 and bore full last year—medium size, early and very high quality; New Prolific, also from Michigan, bore a few very fine specimens, large, high-colored, extra fine quality and very promising; we shall propagate this variety next season; Triumph and Greenbough are both new varieties, very early and produce some very fine fruit; Evan's Cling, a seedling from Jackson county, is a large, yellow red bluish and a good commercial peach; Miller's Cling, large, yellow, one of the best peaches we have for canning purposes; Elberta, we have more trees of this variety than any other and nearly all of the trees bore some fruit, also have a number of other varieties. Think we had a fair showing considering that the trees had been planted only two years and three months.

Vegetables—The rhubarb and asparagus seem to be at home in this soil. Both come in early and are the easiest vegetables to grow, and I consider the asparagus one of the healthiest vegetables that grows. Barr's Mammoth, White Mammoth and Palmetto, all do well here.

I will not go into details further on fruits and flowers at this time, however. I would recommend every lover of flowers to plant a paper of Cosmos seed.

I will also add that I had a number of varieties of cowpeas on trial, none of which did any good this year. The dwarf soy bean did fairly well. For every one that keeps a cow or a few chickens I would recommend sowing in the early fall at least a pound of dwarf Essex rape, and also a small patch of rye.

Burpee's Notted Gem, or Rocky Ford cantaloupes—We have grown three crops of this melon here in a small way. The first crop was a grand success and was profitable, netting probably at the rate of \$100 per acre or more. The second crop was even more promising, never saw such a crop of melons set in all my life, but owing to the protracted hot and damp weather the yield was cut down two-thirds. After all it was a very profitable crop. Last season was too dry; still on a small patch we had all we could use and sold quite a good many. On the whole, from past experience, we do not hesitate to say that this country made a very profitable industry, providing hot and damp farmers would club together and plant three or more acres each and ship them out in carload lots. I have had the melons tested in St. Louis and they were pronounced to be almost equal to those grown in Rocky Ford in quality and ripen much earlier.

We had a very good crop of cantaloupes, but the yield was cut down two-thirds. After all it was a very profitable crop. Last season was too dry; still on a small patch we had all we could use and sold quite a good many. On the whole, from past experience, we do not hesitate to say that this country made a very profitable industry, providing hot and damp farmers would club together and plant three or more acres each and ship them out in carload lots. I have had the melons tested in St. Louis and they were pronounced to be almost equal to those grown in Rocky Ford in quality and ripen much earlier.

I hope another year to report on some garden vegetables, grain and grasses as well as other fruits.—M. Butterfield.

THE BLACKBERRY.

The blackberry is a fruit that is very easily grown, and can be made successful if given intelligent attention. It should be planted in only moderately rich soil, in rows seven feet apart, with the hill three feet apart in the row. Given garden culture with surface cultivation tools. Keep the plant in hills and remove as weeds all sprouts that spring up between the rows, says the "Homestead."

Give high culture and when the new canes are twenty inches high pinch off the terminal buds to make the side branches numerous and cover in the fall. All this may be done, however, and yet the fruit crop may be lost because of a severe winter, not by reason of the low temperature, particularly, but simply because the sap and vitality die out of the canes. It is in the fall that the canes are killed by a pair of heavy mittens and bend them over and downward to the ground, place the foot on top of the hill and with a spade make a hillock of earth on the top until it holds the hill down. This may seem like a simple operation, but it is quite a trick to get them down without breaking them. It may be done, however, if the operator will dig a little earth away from the side of the hill on the side toward which he is going to bend the canes, so that the strain will come partly on the crown and root connections, which are tougher and have more moisture in them because they are nearer the earth, and this work is done in moist weather the canes will come down with a great deal more ease and less loss. In dry weather it is best done in the morning from daylight until near noon. The blackberry cane is only a hard shell filled with a tough pith. It is readily affected by changing temperatures, and is much subject to desiccating winds. It expands only moderately until spring to currents by which the vitality of the roots is evaporated and lost, the canes may be killed, or at best are weakened and injured. If covered even in a moderate winter the vitality is retained, and if in the following season the canes are cut back to the ground in quantities is possible. In pruning back in the spring they should be shortened from one-third to a half. If the crop has been light the previous season the branches and fruiting wood should be cut back fully half, as the fruit will set along the laterals. If a heavy crop were borne the previous season cut one-fifth to one-third only.

Many orchards fail because of a lack of plan in the beginning.

If the lawn is prepared thoroughly by fertilizing and deep plowing the grass will not burn out in drouthy years.

RELATION OF LEAVES TO PLANT LIFE.

By Prof. A. T. Erwin of Iowa College of Agriculture before the Iowa Horticultural Society.

In presenting our subject it may be well to briefly consider first of all the function of the leaf, its work and relationship to the other organs of the plant. Some one has defined the leaf as the lungs of the plant. It would be equally as true to define it as the stomach of the plant, since a digestion as well as respiration are functions of the leaf. Through the agency of the green coloring matter in the leaf in the presence of sunlight the crude sap of the plant is digested and assimilated. Generally speaking, the plant is entirely dependent upon the leaf to carry on this necessary chemical work. It is a highly sensitive organ. A close student of plant growth can readily detect any physiological disorder of the plant system by the appearance of the leaves. A wet, soggy soil is indicated by the bilious appearance of the foliage. From a lack of moisture the tips of the leaf become brown and dead. In many plants the leaves are sensitive to light, cold, etc. From the importance of its work, then, the necessity of such a system of culture as will preserve and maintain a healthy foliage is self-evident, and the subject is one which should interest every fruit grower.

The influence of plant food in the soil bears a direct relation to leaf growth. An excess of nitrogen gives a heavy foliage and good growth, often at the expense of fruit. In fact, the best fruit land is not the richest one by any means. Compare our rich, black, fertile soil of Iowa with the thin, clay soil of Missouri, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

On the under side of most leaves we find innumerable small mouths or stomata, for example. Trees on the latter have decidedly less leafage and a larger proportion of fruit buds. I am inclined to believe, Mr. Bomberger makes the same observation concerning the leaf growth in the bluff lands of southern Iowa, as compared with other sections of the state.

In this connection it may be interesting to note that a rapid growing water cover crop seems to have a perceptible and beneficial effect in using up the surplus moisture near the surface and hence causing the wood to ripen earlier. On the other hand, there is a possibility of an extreme case in having the wood ripen too early. In such a case, if we later have a warm spell with rains, we are likely to have second growth and disastrous results follow. No set rules can be given as to when to cease cultivation. One must be governed by the existing conditions and the lessons of past experience.

It is evident that a plant can do its best work as a crop producer only when it possesses a good, healthy foliage. In orchards infested with the apple scab it is equally as important to spray to preserve a healthy foliage as for the protection of the fruit from this disease. In the state of Illinois, in the season of 1888, the loss through premature dropping of the fruit in

Home Circle

THE HELPER.

She is a woman—in whom
The springtime of her childhood years
Hath never lost its fresh perfume,
Though knowing well that life hath room
For many blights and many tears.

Great feelings hush her of her own,
Which lesser souls may never know;
God giveth them to her alone,
And sweet they are as any tone
Wherever the wind may choose to blow.

Yet in herself she dwelleth not,
Although no home were half so fair;
No simplest duty is forgot,
Life has no dim and lowly spot
That doth not in her sunshine share.

One little kindness
Which most leave undone, or despise;
For naught that sets one heart at ease,
And giveth happiness or peace,
Is low esteemed in her eyes.

Blessing her is; God made her so,
And needs of week-day holiness
Call from her noisier as the snow,
Nor has she ever chanced to know
That aught were easier than to bless.

—James Russell Lowell.

Written for the RURAL WORLD.

TIME WAITERS.

There is prevalent a feeling that one should always be glad to see one's friends; and one should if the friend shows the spirit of true friendship; but there are many calls by so-called friends that are aimless and at inopportune times. If a woman has a washing to do and a dinner to prepare, a neighbor or friend may call early in the morning, and so prolong her stay as to seriously interfere with the household plans of this busy woman.

Many women rush into a neighbor's house on some errand, protesting that they haven't a moment to spare. No, no, they can't sit down. It may be a few minutes after eight in the morning when they call, and be nearly eleven o'clock when they depart. The neighbor called upon will then have to rush to get the dinner ready. In the most of cases the calling neighbor had so planned her work that she has no time to spare. It is a positive unkindness to thus trespass on a busy woman's time when she is unprepared. We are not censuring those short calls which change the tenor of one's thought; but if you go to make a long morning call when your hostess is not expecting you, let her understand the situation at once. It will save her fret, worry and labor.

Time can never be restored, yet how recklessly we spend not only our own, but that of our friends. If we were not so prodigal of our friends' time, we might many times have a more hearty welcome. It is hard to smile radiantly on and greet cheerily one of those chronic time waiters.

The following little incident in the life of Benjamin Franklin shows us why he accomplished so much. His philosophy is hard to adopt, because we are prone to be so much moral cowards.

A time-waster who had been dawdling for an hour in the front store of Franklin's newspaper establishment, at length asked, "What is the price of that book?" "One dollar," replied the clerk. "One dollar!" echoed the longer; "can't you take less than that?" "One dollar is the price," was the answer.

The would-be purchaser looked over the books on sale a while longer, and then inquired: "Is Mr. Franklin in?" "Yes," said the clerk. "He is very busy in the press-room." "Well, I want to see him," persisted the man. The proprietor was called, and the stranger asked: "What is the lowest, Mr. Franklin, that you can take for that book?" "One dollar and a quarter," replied the clerk. "One dollar and a quarter! Why, your clerk asked me only a dollar just now." "True," said Franklin, "and I could have better afforded to take a dollar than to leave my work." The man seemed surprised; but, wishing to end a parley of his own seeking, he demanded: "Well, come, now, tell me your lowest price for this book." "One dollar and a half," replied Franklin. "A dollar and a half! Why, you offered it yourself for a dollar and a quarter." "Yes," said Franklin, coolly, "and I could better have taken that price than that a dollar and a half now."

The man slowly took the money on the counter, took the book, and left the store, having received a salutary lesson from a master in the art of transmuting time, at will, into either wealth or wisdom.

There is a moral for us in this story who are apt to go at unseasonable hours to visit friends, and to us who are so stupid that we can't see that our busy neighbor loves us more if we make a quick, contracted call when her hands weren't quite so full.

MRS. MARY ANDERSON.

Caldwell Co., Mo.

Written for the RURAL WORLD.

ROSA AUTUMN'S TALK.

How sad it is to know that another one of our beloved Home Circle has been called to leave us to join those of our Circle who have gone to the Heavenly Circle. We miss them here, but we are assured they are far more happy in the Circle above. Miss Eleanor Parker, you have our sincere sympathy in your bereavement. I know how to sympathize with you in the loss of a mother, as I had to part with my mother years ago. Now, you must try to be in our beloved H. C. as often as you can to fill that dear mother's place with us. We will always be glad to have you with us.

Mrs. M. A. Bucknell, we are glad to see you in your place again. We miss you when you are absent so long.

HOW'S THIS!

We offer One Hundred Dollars Reward for any case of catarrh that cannot be cured by Hall's Catarrh Cure. F. J. CHENEY & CO., Props., Toledo, O. We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by their firm. West & Trux, Wholesale Druggists, Toledo, O. Walding, Kinman & Marvin, Wholesale Druggists, Toledo, O. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price 75c per bottle. Sold by all druggists. Testimonials free.

Hall's Family Pills are the best.

Cherokee Lady, you are right about our dear editor's patience. I sometimes wonder will it, can it, last, to go through with what I am sure she has to contend with? But then I know she is made up of a bundle of patience and endurance.

L. H. Linton, many thanks, I will do all I can to have that reunion, but surely I fear, will not be our president.

Martha, I hope we will meet at the reunion and have a great long talk over past events. I am sure I shall enjoy that visit with you.

Mattie B., I would be glad to call on you if I should ever go to see my dear friend, Mrs. Schattner, again, which, I fear, will not be soon, as my health is very poor, and I doubt if I will be able to make the trip again. I have been for two months and am still under the doctor's care. I am able to be out of bed, but am far from being well. You go over to see Mrs. Schattner and let her tell you of some of our happy youthful times away back years ago in our dear Louisville, Ky., homes. She will be delighted to talk it over with you, she never forgets anything, especially pertaining to her happy girlhood days, many of which I enjoyed with her there in our dear Kentucky homes.

Louisa Miller, I was glad to see you in our Circle again; come often. I enjoyed your letter so much in the issue of March 12.

Ina May, we have been looking for that promised story in our Circle; let us have it soon.

Why do we never hear from our dear friends any more? What is the matter? We would be so glad to see an article from her in our Circle.

I wish you could all see my lovely flowers in the yard. They are so beautiful and so sweet. They need my care, which I am not able to give them, for having been sick so long I am not strong enough to care for them as I could wish, but they will bloom without any care more than I gave them last fall.

Fayette Co., Ill. ROSA AUTUMN.

Written for the RURAL WORLD.

SMALL ECONOMICS.

To enable her to have any leisure for reading and improvement, the busy housekeeper on the farm must learn to economize her time in every way possible, and must plan her work ahead.

I read of one woman who said she had been a schoolmarm before her marriage, and still made use of the written program, making out a program for a week ahead. While I do not have a written program, yet I have a definite plan for each day's work and meals for several days in advance, subject, of course, to variations to suit the circumstances that may arise.

For example, if we have peas for dinner Monday, I will plan to have beans for Tuesday, potatoes on Wednesday, etc., never waiting until within an hour or two of dinner before I begin to plan what I shall have, and I always gather the beans and peas the evening before wanted, prepare them for cooking, and put them in to cook when I begin breakfast, and by 9 o'clock I have them cooked and dished in a deep dish, over which I turn a plate, wrap it around the dish and set it on the stove hearth, and then I can sit down to cool and rest before dinner.

By keeping pickles and some kind of sauce ready, with plenty of milk, butter and canned fruit—without which I should find it hard to get along—one can soon get up a meal for unexpected company.

We never use meat for our own family during the summer, but by having sausage cooked and put up we can have it ready in five minutes, and it is generally a treat, as it is just as good as fresh. I will give you a method of cooking sausage meat; we never try it.

We never have warm supper during hot weather, always preparing enough at dinner, and as all our vegetables are seasoned with butter and cream, they are palatable enough to eat cold. As we live in the fruit belt, we never eat a meal without one or more kinds of fruit.

I made dresses for the girls, aged 9 and 13, of very heavy unbleached muslin, making the waist double of the new goods, and colored them a beautiful dark brown, and had the nearest looking and the nearest approach to the old hand-made linen of 20 years ago that could be obtained, as coloring thickens the goods until it is almost impervious to the cold winds of winter, and at a total cost of 70 cents for the two girls, which includes the dye. The younger girl wore her dress four months before it had to be washed, when I again gave it another dye bath, half strength, when presto! it is like new. By using a light weight muslin long aprons can be made and colored cardinal or turkey red, and one will outlast three made of calico.

I purchased some muslin of about the same weight as that from which flour sacks are made, and by coloring the tops and linings dark, covered two threadbare quilts at a total cost of 70 cents, and they are very pretty, too.

If you make garments of the muslin, they should be made before coloring, being then much easier to sew, and the thread then colors with the goods.

I colored some of the small scraps red and blue, and pieced some pretty and serviceable cushion covers that will bear a tussle at the hands of the small boy of the family.

Hoping I have not occupied too much space, and that some one may have been benefited by some suggestion offered, I will come again in the near future and tell the sisters how we make a success of the poultry on the farm; also how we make it edge butter and give excellent home remedies.

Texas Co., Mo. ANNIE GIFFARTH.

HOW TO CLEAN A FEATHER BED.

A reader of the Home Circle wishes to know directions given for cleaning a feather bed. The experience of those who have been successful will be gratefully received by this reader.

MOTHERS WILL READ "MRS. WINSLOW'S SOOTHING SYRUP" the best remedy for Children's Coughing.

TO STARCH LACE.

To make the starch properly mix it with enough cold water to make a smooth paste. It will cold water, add the blue milk and water, and then boil it in an enameled saucepan till it is perfectly transparent, stirring carefully all the time. While the starch is cooling squeeze the lace through soapuds to remove all dirt, and rinse in clear water. If you wish to have it white, add a little blue to the starch; if ivory white, omit the blue, and, if yellow tinged, add a few teaspoonfuls of clear coffee. Dip the lace in a clean towel till half dry, and then spread on the ironing table, carefully pulling into shape and pinning down all points. Good lace should never be ironed, and if carefully pulled into shape will not need it.

IF I WERE YOU.

If I were you, and had a friend
Who called a pleasant hour to spend,
I'd be polite enough to say,
"Ned, you may choose what game we'll play."

That's what I'd do,
If I were you.

If I were you, and went to school,
I'd never break the master's rule;
And it should be my teacher's joy
To say she had no better boy.

And you would be true,
If I were you.

If I were you, I'd always tell
The truth, no matter what befell;
For two things only I despise—
A coward heart and telling lies;

And you would too,
If I were you.

If I were you, I'd try my best
To do the things I here suggest;
Though since I am no one but me,
I cannot very well, you see,
Know what I'd do
If I were you.

—Selected.

Written for the RURAL WORLD.

AN OLD EQUESTRIENNE.

Some time ago I read of one of our writers' experience in horseback riding. It carried me back to my girlhood days. I delighted in riding and I captured several premiums at the Montgomery City Fair. I lived two and one-half miles west of Montgomery City. I broke a young horse to ride to school, and didn't ride through; no grass grew under my horse's feet after I mounted him. I had a gate to open on my road to school. One morning my horse got away from me while I was closing the gate. Away he went to the college, riderless, with the book satchel and dinner pail on the saddle horn. I followed walking, mad as I could be. The teacher sent a scholar back with my horse, expecting him to find a crippled girl, as the reins were up as if I had been thrown.

But really I do not know a lady who can retain her grace and ride astride. It takes a saddle with a leaping horn. It braces one in the saddle.

The other day I had an occasion to go on an errand to a neighbor's. My daughter said: "I will get the saddle horse and you can ride." I said, "All right." I had told her how I used to ride, and that I could almost spring into the saddle from the ground. Well, she brought the horse, and I could not mount her until I got up on the fence higher than the horse. I have not ridden much for eight years. But when I started off I felt as young as I used to be.

Several years ago my husband and I took an outing and went overland to Sedalia, Mo. We traveled all day one Sunday, and near Rocheport we met a procession of young people on horseback—ladies and gentlemen—coming from church. Some had very fine saddle horses, too. A buggy would not last long or a person, either, that rode in one over those hills and rocks. That night we camped in a walnut grove. It was in the fall. Our horses were tired, and so were we. We had a lonely place. We had a box on the back of the spring wagon for our horses to eat in, and one of them was so tired she would not eat. We tied the other one to a tree, and let her eat grass and hay. That night we camped in a remarkably fine "Along the Mississippi," by John Swain, is a very attractive written description of the ways of the river and the people that live on it and beside it from Elk Lake to the harbor of New Orleans. The illustrations from photographs taken by the United States Army, "Indian Children at School," by Anne O'Hagan, is another well illustrated article that should have particular interest for women readers. "A Penny Saved Is a Penny Got," by John Gilmer Speed, is a very readable account of the problems of the United States, showing their enormous importance in the financial weight of the country. "The Brass Band," by Harvey Sutherland, is a picturesque and humorous study of that most individual of American institutions in which over one million people are passionately interested.—Street & Smith, Publishers, New York.

COLD.—The most severe cold taken at the start can be routed by the use of quinine and hot lemonade, but they should be taken on retiring and the patient should remain in bed all the next day in a well-heated room. The juice of a lemon, half a teaspoonful of glycerine, the white of one egg and four tablespoonfuls of granulated sugar beaten together to a smooth compound will afford great relief in hoarseness.

MRS. EMMA SEE ROBERTS.
Audrain Co., Mo.

LOOK OUT, BOYS.

Humor brightens up the world, and fills it with good cheer and sunshine, but teasing spoils the enjoyment of some one. The teaser is not always ill-natured, perhaps not often so. He steps on the toes of the dog that is trying to take a nap, till the patient creature gets up and changes his position. He puts the kitten in the front of the apple tree and looks on complacently while the old cat howls dimly over her darling's danger. He makes fun of his small brother's ginghams apron till the little fellow goes wailing to his mother to beg for a coat and trousers. He hectors and annoys every living thing that comes near him, with out perhaps a bit of malice in it all, but there is a heap of unkindness in it.—Young People's Weekly.

A FINE KIDNEY REMEDY.
Mr. A. S. Hitchcock, East Hampton, Conn. (The Clothier), says if you suffer from Kidney or Bladder Disease will write him he will tell what he used. He has nothing to sell or give; only directs you to a simple home cure that does the work.

DYSPEPSIA.
The juice of the lemon diluted with four times its weight of warm water, and the drink without sweetening half an hour before eating will afford great relief in some forms of dyspepsia because of the increased flow of saliva which the citric acid contained in the lemon produces. Prepared in the same way, if taken early in the morning and just before going to bed at night, it is an excellent and harmless stimulant for a torpid liver. A still better but more disagreeable way of preparing it for the same purpose is to make a cold decoction of bismuth, strain and to each pint add the juice of three lemons. Drink a few swallows after eating and upon retiring at night.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

Written for the RURAL WORLD.

FROM EASTERN ILLINOIS.

No doubt there are many others like myself (in this respect) who would rather read and listen to others than be heard or seen. But as Blue Bells has pointed me out, and even named me, I will rise up and say a few words. To Blue Bells I will say, certainly I would like a slip of that cactus, and will gladly give one in return. When I read "Wife of Sorghum," February letter I just out and see those flowers, bushes and vines. "Dear me!" some one whispers. "Another flower crank!" Yes, I own it. But are they not beauties of God's own creation? Then why not talk of them, love them, yes, and have them.

Here's my hand, Nina S., I live on a farm, too. I know something of its requirements, also its pleasures. Just now I am listening to the bleating of the sheep and little lambs. In front of my window is a flock of beautiful P. Cochins; just beyond them is another flock of S. P. Hamburgs; then out about the barn is a lovely group of little Jersey calves. These are beauties the city folks cannot enjoy.

I am for a button, too, and vote one for Rosa Autumn as president of the reunion whether I am able to go or not. I cannot help thinking of the basket I read of so much.

MRS. E. B. SMOOT.
Vermilion Co., Ill.

WHY HE DIDN'T JUMP.

Pat's Wages Went Up With the Speed of Train.

Here is one that a young man who knows a good story when he hears it, heard one railroad man tell another in a depot up the line the other day:

"We picked up a new Irishman some-where up-country, set him to work breaking on a construction train at 3 cents a mile for wages. One day when him and me was on the train he got away on one of them mountain grades, and the first thing we knowed he was flyin' down the track at about ninety miles an hour, with nothin' in sight but the ditch and the happy huntin' grounds when we come to the end. I waked 'em down as hard as I could all along the tops, and then of a sudden I see Mike crawlin' along toward the end of one of the cars on all fours, with his face the color of milk. I thought he was gettin' ready to jump, and I see his finish if he did."

"Mike," I says, "for God's sake don't!"

"He clamps his fingers on the runnin' board to give him a chance to turn round, and lookin' at me contemptuously, answers:

"Jump, is it! Do you think I'd be after jumpin' an' me makin' money as fast as I am?"—Portland Oregonian.

AINSLER'S MAGAZINE for April contains an article of startling importance, "Divorce and the Family," by Rev. Percy Stickney Grant, one of the most influential Episcopal clergymen in New York. The study of the most intimate and grave problems of America is remarkably frank. "Along the Mississippi," by John Swain, is a very attractive written description of the ways of the river and the people that live on it and beside it from Elk Lake to the harbor of New Orleans. The illustrations from photographs taken by the United States Army, "Indian Children at School," by Anne O'Hagan, is another well illustrated article that should have particular interest for women readers. "A Penny Saved Is a Penny Got," by John Gilmer Speed, is a very readable account of the problems of the United States, showing their enormous importance in the financial weight of the country. "The Brass Band," by Harvey Sutherland, is a picturesque and humorous study of that most individual of American institutions in which over one million people are passionately interested.—Street & Smith, Publishers, New York.

COLD.—The most severe cold taken at the start can be routed by the use of quinine and hot lemonade, but they should be taken on retiring and the patient should remain in bed all the next day in a well-heated room. The juice of a lemon, half a teaspoonful of glycerine, the white of one egg and four tablespoonfuls of granulated sugar beaten together to a smooth compound will afford great relief in hoarseness.

MRS. EMMA SEE ROBERTS.
Audrain Co., Mo.

LOOK OUT, BOYS.

Humor brightens up the world, and fills it with good cheer and sunshine, but teasing spoils the enjoyment of some one. The teaser is not always ill-natured, perhaps not often so. He steps on the toes of the dog that is trying to take a nap, till the patient creature gets up and changes his position. He puts the kitten in the front of the apple tree and looks on complacently while the old cat howls dimly over her darling's danger. He makes fun of his small brother's ginghams apron till the little fellow goes wailing to his mother to beg for a coat and trousers. He hectors and annoys every living thing that comes near him, with out perhaps a bit of malice in it all, but there is a heap of unkindness in it.—Young People's Weekly.

A FINE KIDNEY REMEDY.
Mr. A. S. Hitchcock, East Hampton, Conn. (The Clothier), says if you suffer from Kidney or Bladder Disease will write him he will tell what he used. He has nothing to sell or give; only directs you to a simple home cure that does the work.

DYSPEPSIA.
The juice of the lemon diluted with four times its weight of warm water, and the drink without sweetening half an hour before eating will afford great relief in some forms of dyspepsia because of the increased flow of saliva which the citric acid contained in the lemon produces. Prepared in the same way, if taken early in the morning and just before going to bed at night, it is an excellent and harmless stimulant for a torpid liver. A still better but more disagreeable way of preparing it for the same purpose is to make a cold decoction of bismuth, strain and to each pint add the juice of three lemons. Drink a few swallows after eating and upon retiring at night.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

ANY LADY
Wanting a good Cook Book made up of common sense receipts and so fresh, jarred, compiled by the best housekeeper in the whole country, can have it sent free by enclosing two 3-cent stamps for postage. Address
Majestic Manufacturing Co., St. Louis.

no many little things with which one has to contend. Still, we should not expect too much, and if an entire flock will average 150 eggs a year there could be no reason for complaint. We should not, under any circumstances, keep a hen that did not lay 150 eggs, unless, perhaps, she be an exceptionally fine specimen which we wanted to keep for exhibition purposes.

Good hens, in order to be profitable, must not only lay a great many eggs, but they must lay them during the fall and winter months. In order to develop the best layers each hen must be carefully watched, and those that fall should be at once fattened and sent to market.

WHITES VS. COLORED CHICKENS.

This subject is claiming wide attention all over the country, where there is an interest in poultry, and we believe that the white plumage man is gaining ground constantly, writes Mrs. D. M. Johns in "Poultry Topics." We remember that a few years since the country was swept over for Plymouth Rock, which we admit is yet a very popular breed, but we believe and have figures and facts to confirm our belief that the White Plymouth Rock is constantly taking the lead over the Barred. They possess all the good points of the barred, with the added advantage of beauty of white plumage and as better egg producers. One fact pointing to their increasing popularity is the enormous prices now being paid for good breeding stock. For example, a pen of seven birds sold for \$500. This was double the largest sum paid for this number of fowls, and many other breeders are selling their stock of this breed at fancy prices.

Then of the Wyandotte family there are several different branches, but we see the White Wyandotte outstripping the others in the race for popularity, and as a general-purpose fowl, they have a strong hold. The same may be said of the Rhode Island Reds, which are a family of White Cochins for some years were a very weak class, but are now coming to the front grandly, and what wonder, given white beauties, and they lay such quantities of large brown eggs in the cold weather, for their heavy plumage protects the cold from chilling them as it could all along the tops, and then of a sudden I see Mike crawlin' along toward the end of one of the cars on all fours, with his face the color of milk. I thought he was gettin' ready to jump, and I see his finish if he did."

This contest and the awarding of the prizes will be conducted under the following conditions and subject to the following directions: The prizes will be awarded in the order named below, to those registering the correct or nearest correct number of dots in the puzzle of this page:

The Fifth to the 2,999th Prizes Will Aggregate Balance of the \$5,078.00

THE BEST WAY TO WIN.
Ten friends, including yourself, club
each sending in a count. One
you will possibly win the \$1,000. The
can then be divided among the
bars of your club-winning \$200 for

of you. Each of you will have had chances of winning any one of the prizes—or 20,000 opportunities of getting a portion of the \$275.00. Your club consists of any number. Or, do not join any club at all. Simply go after prizes yourself, for yourself. You get the same chance as a club of ten when you pay \$5.00 for five years' subscription to our registered account, giving you, self, 20,000 chances of winning some of the \$275.00.

Your account is absolutely free. Every dollar applied on your subscription. Each year you pay for a year's subscription you register a count.

NATIONAL BANK
United States Depository.

Pres., President.	Capital, \$1,000,000.
Vice-President.	Surplus and
Cashier.	Profit, \$300,000
Asst. Cashier.	

MINNEAPOLIS, MINN.,
April 22, 1902.

and of the Minnesota Tribune Co.,
Minneapolis, Minn., the sum of Five
and Seventy-Eight Dollars,
is paid to winners of prizes in
THE TRIBUNE'S Great Dot Contest
for their property certified to by
Wm. J. F. R. Fox and Albert
Brown, the judges of said contest.

FIRST NATIONAL BANK,
(Copy) Per E. C. Brown,
Asst. Cashier.

farmer's Twice-a-Week
Tribune
Every man's newspaper; all the latest
news and news items, ready reading, pub-
lications and Fridays each week, 104
years—less than a cent a copy. Each
week a short story by one of the best
writers and a part of a serial story, fashions
and illustrations, and, above all, the
most interesting and up-to-date news.

Counties cannot be charged or money refunded if they have been mailed to the Tribune office. If you have made a mistake, send another remittance with a new count.

More than one of the first four papers will be awarded to the same person or family.

Your paper and receipt will be sent just as soon as possible. It may be a week or more before we can be sure about it. Every remittance is acknowledged in the order of its receipt.

By the 15th of each month, 11:30 p. m., and money received after that date and will be applied on subscription, but the count will not be registered.

After you have filled out your card, read all directions over again carefully. Then fill in the name of your coupon is PROPERLY FILLED OUT.

men be sent by Mail.

to the Farmers' Tribune.

get ONE	Registered Count
get TWO	Registered Counts
get FOUR	Registered Counts
get SIX	Registered Counts
get TEN	Registered Counts

for years'

Do! Puzzle. P. **26**

State Rural Route

other counts in this contest

THE ADDRESS BELOW. (You or We)

le for Years

le for Years

le for Years

[c]

ne, Minneapolis, Minn.

le, Without a Peer,"
read it for many years, of the
be-Democrat
half a million readers. It is BEYOND ALL
national news and family journal published in
ditions, but is above all a NEWSPAPER, and
comparatively. IT IS INDISPENSABLE to the
to keep thoroughly posted, but has not the
city of well-selected reading matter makes it

Pages each Tuesday and Friday.
Single Copies Free.
NTING CO.,

S. MO.
 either Address, Both for \$1.50 net.

Public Republic
 of all Newspapers.
 Service excels that of any other paper.
 Imaginative occurrences, but domestic
 is the time to subscribe for the best
 whole world. It is **DEMOCRATIC**
PAPER and Family Journal.

\$1.00 gives you two papers each week,
 every Monday and Thursday. **Ad-**

PUBLIC,
S. MO.
 or address, both for \$1.50 net.

MRS. WINSLOW'S SOOTHING SYRUP Has been used for over sixty years by millions of mothers for their children while teething with perfect success. It soothes the child, softens the gums, allays all pain; cures wind colic, and is the best remedy for diarrhoea. Sold by Druggists in every part of the world. Be sure and ask for "Mrs. Winslow's Soothing Syrup" and take no other kind. Twenty-

Horse quotations: Heavy draft—Common to good, \$120@160; choice to extra, \$160@185. Chunks, 1,150 to 1,350 lbs.—Fair to good, \$85@90; good to choice, \$95@100. Coach horses and cobs—Fair to good, \$75@85; choice to extra, \$100@160. Horses for the South—Small, light drivers, fair

SHEEP—Receipts light and market strong and active on all classes. The week closes with an advance of 15c on all grades, which puts it on the highest basis for many years. We quote the following values: Best sheep, \$5.75@6.25; best lambs \$6.50@7.00; best bucks, \$1.50@5.00; spring lambs, \$7.00@9.00.

Monday, April 28, 1902.—**CATTLE**—Receipts of quarantine cattle were moderate.

general way it must be said that the commercial importance of the great king of cereals has been accorded very slow recognition. In the United States corn is the king of cereals, both in acreage and value of production. More than 80,000,000 of acres are annually planted in corn, and a normal yield amounts to considerably more than 2,000,000,000 bushels, which represents only one-half the value of the great

St. Jacobs Oil never fails.

It Conquers Pain

Price, 25c and 50c.

SOLD BY ALL DEALERS IN MEDICINE

The disc plow is to be a very conspicuous factor in the future trade of the implement dealer, for it must be remembered the disc drill, the disc harrow and the disc cultivator, which have become popular with the farmers and give evidence of remaining so, were a long time proving that they had come to stay.

Many farmers near Tulsa, Okla., have formed a melon growers' association, and will plant a thousand acres of cantaloupes and several hundred acres of melons. A Chicago commission house has arranged to send a buyer there in the shipping season. This is a new industry there, but experiments last year proved that cantaloupes do well and are two weeks earlier than the Colorado melons.

Many farmers near Tulsa, Okla., have formed a melon growers' association, and will plant a thousand acres of cantaloupes and several hundred acres of melons. A Chicago commission house has arranged to send a buyer there in the shipping season. This is a new industry there, but experiments last year proved that cantaloupes do well and are two weeks earlier than the Colorado melons.